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AMSAT NEWS SERVICE
ANS-050

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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ANS-050 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 050.01
>From AMSAT HQ SILVER SPRING, MD.
February 19, 2012
To All RADIO AMATEURS
BID: $ANS-050.01

NASA Press Release for 3rd Round of Cubesat Space Mission Candidates

On February 14, 2012 NASA issued a press release officially listing AMSAT-NA and all of the other 32 small satellites selected to fly in 2013 and 2014 as auxiliary payloads.

The proposed CubeSats come from universities across the country, the Radio Amateur Satellite Corporation, NASA field centers and Depart-ment of Defense organizations.

After launch, the satellites will conduct technology demonstrations, educational research or science missions. The selected spacecraft are eligible for flight after final negotiations and an opportunity for flight becomes available. The satellites come from the following organizations:

-- Air Force Institute of Technology, Wright-Patterson AFB, Ohio
-- Air Force Research Lab, Wright-Patterson AFB
-- California Polytechnic State University, San Luis Obispo
-- Cornell University, Ithaca, N.Y.
-- Massachusetts Institute of Technology, Cambridge
-- Montana State University, Bozeman
-- Naval Postgraduate School, Monterey, Calif. (2 CubeSats)

-- NASA's Ames Research Center, Moffett Field, Calif.
-- NASA's Goddard Space Flight Center, Greenbelt, Md.
-- NASA's Jet Propulsion Laboratory, in partnership with the
    California Institute of Technology, Pasadena (2 CubeSats)
-- NASA's Kennedy Space Center, Cape Canaveral, Fla.
-- The Radio Amateur Satellite Corporation, Silver Spring, Md.
-- Saint Louis University, St. Louis
-- Salish Kootenai College, Pablo, Mont.
-- Space and Missile Defense Command, Huntsville, Ala. (2 CubeSats)
-- Taylor University, Upland, Ind.
-- University of Alabama, Huntsville
-- University of California, Berkeley
-- University of Colorado, Boulder (2 CubeSats)
-- University of Hawaii, Manoa (3 CubeSats)
-- University of Illinois, Urbana (2 CubeSats)
-- University of Michigan, Ann Arbor
-- University of North Dakota, Grand Forks, N.D.
-- University of Texas, Austin
-- US Air Force Academy, Colorado Springs, Colo.
-- Virginia Tech University, Blacksburg

Thirty-two CubeSat missions have been selected for launch in the previous two rounds of the CubeSat Launch Initiative. Eight CubeSat missions have been launched (including five selected via the CubeSat Launch Initiative) to date via the agency's Launch Services Program Educational Launch of Nanosatellite, or ELaNa, program.

The full text of the NASA Press Release can be read on-line at:
http://www.nasa.gov/home/hqnews/2012/feb/HQ_12-050_CubeSats.html

SpaceDaily.com published a related story at:
http://tinyurl.com/Cubesats

For additional information on NASA's CubeSat Launch Initiative program, visit: http://go.usa.gov/Qbf

Please make your donation to AMSAT's Fox-1 Fund at:
http://www.amsat.org

[ANS thanks NASA for the above information]

Dick Daniels (W4PUJ) - SK, 1932 - 2012

By Jan A. King W3GEY/VK4GEY

One of AMSAT's most important, admired and well loved members, Dick Daniels, W4PUJ, ex WA4DGU, died on February 14, 2012. He lost his battle with lung cancer, diagnosed only at Christmas time 2011. Dick achieved so much working for AMSAT that it is virtually impossible to enumerate his individual accomplishments. And we cannot overestimate the importance of his sustained support. Dick was many things to us but, among them he was our record keeper, photographic recorder, and the de facto AMSAT historian. So, his loss also represents the loss of many memories of the things we did and the places we've gone as an organization, which simply can't be recorded or kept except in a mind. So, our loss is huge! The records of our earlier spacecraft developments, starting with Australis-OSCAR-5 and continuing to pre-sent, amount to over 6,000 individual (non-duplicate) 35 mm slides. These have since been digitized. These were all kept and maintained by him. Many of the photos were his own.

Dick was born in Cincinnati, Ohio on May 19, 1932. He received a BBA degree from the University of Cincinnati in Business Management in 1956 and an MBA from the University of Pennsylvania Wharton Graduate School in 1957. He joined NASA HQ in 1961 where he remained until his retirement in 1994. Dick became a licensed radio amateur in 1959. He was involved with the formation of AMSAT in 1970 and served on the AMSAT Board of Directors from 1992 to 2003.

Dick was one of the initial AMSAT members and was Life Member 11. His first major contribution to amateur radio was his work to obtain permission from the NASA Administrator (then James Fletcher) and the NOAA Administrator (then Jack Townsend) for the launch of Australis-OSCAR-5. It was Dick who pushed our AMSAT letter proposal for the launch of AO-5 through the NASA and NOAA systems. Dick was also heavily involved in our efforts to license AO5 with the FCC. That was a much bigger deal back in 1970 than it is today. Few will appreciate the resistance we had within the system from the TIROS project office at NASA/GSFC and what had to be done to overcome it. Few will also remember the support we had from places we didn't expect, but, with Dick's help and all of us pushing - we were in "business" - the "business" of building satellites for free.

Dick became AMSAT-NA's primary mechanical designer and technician, having helped design and then assemble just about every spacecraft structure we launched starting with AMSAT-OSCAR-6. At the beginning of the Phase-3 era it became clear that AMSAT needed to go into the propulsion business if we were going to get to higher orbits and Dick took on the role of chief propulsion expert, in addition to his mechanical technician duties. Dick and I installed the Thiokol solid propellant kick motor into the ill-fated Phase-3A satellite once it arrived in French Guiana and it was Dick, working with MBB who loaded the bi-propellant fuels (UDMH or AZ-50 and N2O4) on-board AO-10, AO-13 and AO-40 (all very dangerous compounds). Even though the rocket motor each time was pure German technology, Dick was the one we all trusted to handle the exacting task of propellant loading. He also developed, assembled and tested all of the PFAs (propellant flow assembly) units that controlled the fuel flow and pressurization of each of the propulsion systems. He also contributed significantly to their design details. The utilization of real, high performance propulsion systems on small satellites is still something no other small satellite organization other than AMSAT has successfully achieved. Few have even attempted to follow in our footsteps. We've had our difficulties with rocket motors (and what organization that has tried to use them has not?) but, at least AO-13 was perfect. No professional organization has ever done much better than the performance of that propulsion system. And, in large measure, the success of that system can be credited to Dick Daniels. The other P3 satellites, at least had partially successful motor firings, except for Phase-3A which was lost due to a launch vehicle failure, hence we never had a chance to fire our solid rocket motor.

Dick constructed the AO-6 2M/10M repeater (or transponder) designed by Perry Klein (W3PK) and Karl Meinzer (DJ4ZC). He also constructed the follow-on unit flown on AO-7. He assembled major portions of the receiver units forming both the command system and packet communications system developed by Tom Clark (W3IWI) for the four Microsat spacecraft launched in 1990. Dick assembled so much hardware that if you were to look at each individual sub-assembly that he built or worked on - as they exist in our master photo set - and you viewed each slide for 10 seconds, it would take over an hour to view all of them! That is a lot of space flight hardware.

Dick loved space flight, he loved the challenge represented by the

amateur satellite program and he loved working with our many friends around the world. Together we accomplished something that will take years before others reproduce. More importantly, with Dick's huge support we actually created a new industry. Few lives can claim to have done that. The Small Satellite Industry is very alive and well and, as a sector of all space commerce it is now the fastest growing area. If Dick had not made his contributions, AMSAT would have had a very different history but, because of him and others who worked so hard to get things started, AMSAT is at the root of all of today's small satellite technology. This is a fact, not wishful thinking.

Dick also loved nature and the outdoors. We spent many happy times hiking in the mountains of Virginia, using the "famous" Daniels "cabin" as a base camp. We had great times chasing butterflies and watching sea turtles in French Guiana. Dick has a wonderful family and even though AMSAT took a significant fraction of his free time his daughter Kathy and his son Robert are proud of his accomplish-ments. Like all AMSAT "widows" Jackie supported Dicks "hobby" with enthusiasm and never complained about her time alone when Dick was integrating AMSAT spacecraft on the night shift (sometimes at home and sometimes with me at the AMSAT lab). His family will miss him terribly as he was not just an average father and husband.

Dick spent a lot of time working on the gantry level of many launch vehicles, installing AMSAT spacecraft on Delta and Ariane launchers and, as a NASA-HQ employee, he built more space flight hardware in his basement than anyone working for NASA in Washington, D.C. ever even saw in a lifetime. He loved life and he made his count. And he made a huge difference to the outcome of our hobby and our belief in what an individual can do in space.

So, we've lost someone that meant a lot to us all and someone who will be impossible to replace. History may repeat itself but, it will be a long time before someone like Dick Daniels, with his uni-que set of skills comes our way again. So, W4PUJ is SK. This is a sad day for amateur radio and to the small satellite space commun-ity and even more for those of us who loved him.

Dick, you made a difference and it will be a long time still before others reach where you have been. What you did wasn't just worthwhile - IT WAS FANTASTIC! I'll never forget our time working together! It was an amazing hobby, really! An amazing LIFE!

Jan A. King, W3GEY/VK4GEY

A memorial service will be held for Dick Daniels, W4PUJ on Saturday, February 25 at 1:00PM at Little Falls Presbyterian Church, 6025 Little Falls Rd, Arlington VA 22207. In lieu of flowers, the family suggests a contribution to: Capital Caring, 950 N Glebe Rd #500, Arlington VA 22203. This is the organization that provided hospice care for Dick. Donations in memory of Dick can also be made on-line: http://www.capitalcaring.org/donate-online

E-mail messages of condolence sent to martha@amsat.org will be given to Dick's family.

For those planning to attend Dick Daniels Memorial Service from out of the Washington DC area, a block of rooms has been reserved by the family. Reservations must be made by Tuesday at 4:00 PM EST. Go to: http://tinyurl.com/Daniels-AMSAT (Holiday Inn)

[ANS thanks Jan King, W3GEY/VK4GEY for the above information]

AMSAT Awards Announcement & New Postal Rates Notice

AMSAT Director Contests and Awards, Bruce Paige, KK5DO says congratulations are in order for our latest AMSAT Awards recipients.

The following have entered into the Satellite Communicators Club for making their first satellite QSO:

+ Ben Jacobs, KC9ROI

The following have earned the AMSAT Communications Achievement Award:

+ Hector Luis Martinez Sis, CO6CBF, #547
+ I Made Sudarsana SE, YB9AY, #548

The following have earned the South Africa Satellite Communications Achievement Award:

+ Hector Luis Martinez Sis, CO6CBF, #US178

The following have earned their Robert W. Barbee, Jr. W4AMI Award:

+ Hector Luis Martinez Sis, CO6CBF #76
+ Jim Adams, K0BAM upgrade to 2,000

The following have earned their Robert W. Barbee, Jr. W4AMI 5000 Award:

+ Mariusz Kocot SQ9MES, #29

To see all the awards visit http://www.amsat.org or http://www.amsatnet.com

Postage Rate Increase Drives New Cost of Awards:

The AMSAT Awards web page (http://www.amsat.org/amsat-new/awards/) will be updated with the new postage rate information. Please note that new U.S. Postage rates in effect January, 2012 now require envelopes with stiffeners in them (as AMSAT Awards are packaged) to be sent as first class small packages. Postage is now $2.00 within the U.S. and $5.00 for overseas.

[ANS thanks AMSAT Director Contests and Awards, Bruce Paige, KK5DO for the above information]

AMSAT Preparations for Dayton Hamvention 2012

AMSAT Vice-President of User Services, Gould Smith, WA4SXM says that planning is underway and the AMSAT Dayton team is busy preparing for our presence at the Hamvention, May 18-20, 2012.

AMSAT will be found in the same booths (444-449) in Ball Arena, right across from the ARRL area and just inside the door from the Satellite Demonstration area. Plan to visit all of the AMSAT activities!

+ AMSAT satellite prototypes
+ AMSAT Thursday Night Get-together

+ AMSAT Forum planned for Saturday morning
+ AMSAT/TAPR Banquet

AMSAT reserves a block of hotel rooms with priority given for those volunteering to work in the AMSAT booth for multiple 2 hour shifts during the Hamvention. More information will be released when this is finalized.

Additional information via ANS and the AMSAT web site Dayton area will be updated soon. Keep an eye on:
http://www.amsat.org/amsat-new/hamvention/2012/Dayton.php

[ANS thanks Gould Smith, WA4SXM for the above information]

Vega Launch Success - Cubesats Heard

The European Space Agency Vega first flight was launched successfully on Monday, February 13 at 1000 UTC from the ESA Spaceport at Kourou in French Guiana. A YouTube video playback of the launch can be seen at: http://tinyurl.com/Vega-Launch

Following the launch signals had been reported from AlmaSat-1, Goliat, Masat-1, PW-Sat, UniCubeSat and XaTcobeo by amateur radio operators around the world.

Details of the satellite radio frequency and modulation type have been published on the web, see:
http://www.amsat.org
http://www.uk.amsat.org/4657
http://www.ne.jp/asahi/hamradio/je9pel/esa9cubf.htm

The Cubesats have received IARU Coordination for operation on the following frequencies:

+ AlmaSat-1 437.465 MHz 1200 bps FSK, 2407.850 MHz
- E-St@r 437.445 MHz 1200 bps AFSK (no reception report)
+ Goliat 437.485 MHz 1200 bpx AFSK
+ Masat-1 437.345 MHz 625/1250 bps GFSK, CW
+ PW-Sat 145.900 MHz 1200 bps BPSK AX25, CW
- Robusta 437.325 MHz 1200 bps FM (no reception report)
+ UniCubeSat 437.305 MHz 9600 bps FSK
+ XaTcobeo 437.365 MHz FFSK with AX.25

AMSAT-Francophone has posted a windows and linux version of a tele-metry decoder for the French student ROBUSTA amateur satellite at:
http://www.amsat-f.org/site/spip.php?article24

When PW-Sat has finished its primary scientific mission it will be reconfigured as a 435/145 MHz FM to DSB transponder for general amateur radio communications. The FM to Double Sideband transponder was first pioneered by amateurs on the satellite AO-16.

The Masat-1 satellite team have made available software to decode their 437.345 MHz GFSK telemetry data via a PC sound card. The soft-ware can be downloaded from:
http://cubesat.bme.hu/en/foldi-allomas/kliens-szoftver/

XaTcobeo got a mention on Spanish TV news, see:
http://www.youtube.com/watch?v=mdVt8P1gzfY (in Spanish)

[ANS thanks the Vega Cubesat Teams, AMSAT-UK, and radio amateurs
worldwide for the above information]

MASAT-1 Designated MagyarSat-OSCAR-72 (MO-72)

OSCAR Number Administrator Bill Tynan, W3XO reports, "Congratulations on the successful launch of the MaSat-1 Cubesat that the team at Budapest University of Technology and Economics have been responsible for designing, building and testing. Since you have met all of the requirements for being issued an OSCAR number, including coordination through IARU and requesting an OSCAR number, I, under authority vested in me by the President of AMSAT-NA, do hereby name MaSat-1 as MagyarSat-OSCAR-72 or MO-72."

Bill concludes, "I, and all at AMSAT-NA wish MagyarSat-OSCAR-72 great success in fulfilling all of its mission objectives."

[ANS thanks OSCAR Number Administrator Bill Tynan, W3XO for the
above information]

Satellite Shorts From All Over

+ Congratulations to John Papay K8YSE for reaching 1006 confirmed grids for his satellite VUCC award!

+ Joseph Armbruster, KJ4JIO is working on an analysis of ARISSat-1 keplerian element data. He has posted his initial graphic plots of the data at: http://tinyurl.com/KJ4JIO-Analysis
Joe plans to extend this analysis in the future to include correlation of orbit with temperature, eclipses, etc.

+ ARISS news is available on Twitter. The ARISS twitter account ARISS_status has just surpassed the 1000 followers mark.
See: http://twitter.com/ARISS_status

+ Special John Glenn ARISS Contact with Perth, Australia to celebrate the 50th Anniversary of "The City of Lights" will carried live via internet streaming, Monday, February 20 at 10:23 UTC:

  - EchoLink *AMSAT* (101377) and *JK1ZRW* (277208) servers
  - IRLP Node 9010 Discovery Reflector

+ AMSAT-DL received a certificate of appreciation from Japan's UNITEC-1 flight to Venus together with AKATSUKI (Venus Climate Orbiter): http://tinyurl.com/UNITEC-Award (amsat.org).

+ Reminder that the QSL Manager for the K7UGA Barry Goldwater Special Event stations sponsored by CADXA is Bob Davies, K7BHM (qrz.com) with an SASE. A video showing K7UGA satellite operation has been posted by Patrick WD9EWK at:
http://www.youtube.com/watch?v=790OQThYtX0

+ Yuri, UT1FG/MM has been making satellite contacts in range of North America. John, K8YSE has prepared an excellent "working Yuri" primer for those trying to make a contact with UT1FG/MM:
http://www.papays.com/sat/general.html (scroll down about 1/4 way

down the web page).

+ AMSAT Keeper of the Keps, Ray Hoad, WA5QGD says that SumbandilaSat (SO-67, Cat# 35870) has been added back into the Keplerian Element set distribution in light of published plans of recovery of SO-67 for amateur radio operation.

+ The 2012 AMSAT Space Symposium and Annual Meeting dates have been set for Oct 26-28, 2012 at the Holiday Inn Orlando Airport. More details as they become available.

+ NASA and the American Physical Society have entered into a partnership to share unique videos from the International Space Station with students, educators and science fans around the world. NASA astronaut Don Pettit will use everyday objects from Earth to demonstrate physics through the "Science off the Sphere" video series. Watch the first video at http://www.physicscentral.com/explore/sots/ (NASA Education Express)

+ Astronaut Nicole Stott posted an image of Egypt on her Twitter account: http://tinyurl.com/pyramids-from-ISS. If you can spot the Great Pyramids at Giza in this small image, you've pretty good eyesight! Click the image for a larger version of the image if can't find them. (UniverseToday.com)

+ DX News Reports say that Gabon, TR, will be activated by Sebastien, F4EIH, who will be in Gabon for at least three years starting on 1 February. He plans to operate SSB, PSK31 and JT65 on the HF and VHF (EME and Satellite) bands. (425 DX News)

+ Enjoy the view out the window aboard the ISS as you fly over the US East Coast at night: http://tinyurl.com/ISS-Over-EastCoast. At the end of the video you can click on the icons to fly over other places. (UniverseToday.com)

+ Cornell/JA/MIT are organizing the 1st Interplanetary CubeSat Workshop. The conference will be held at the end of May this year at MIT. Abstracts are now being accepted for technical talks. The event website describing keynote speakers, program details and other information can be accessed at: http://www.iCubeSat.org

+ Historical Note: 26 years ago on February 19, 1986 the Mir Space Station was launched. It was assembled in orbit from 1986 to 1996. It was deorbited on March 21, 2001.

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office. And, with that, please keep in mind the size of the universe: Light from the sun takes 8 minutes to reach you. When you look at the Andromeda galaxy the light you are seeing took 2.3 million years to reach you. If the sun were the size of a dot on an ordinary-sized letter 'i', then the nearest star would be 10 miles away.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM
K9JKM at amsat dot org